Amendments to the Drawings

Figures 1 and 2 have been amended to include the legend "Prior Art." No new matter is being introduced.

Attachment: Replacement Sheets
Annotated Marked-Up Drawings

REMARKS

Claims 1-60 are pending in the application. Claims 1-60 stand rejected. Independent claims 1, and 31 are being amended. Dependent claims 3-4, 10, 23-24, 33, 34, 40 and 53-54 are being amended to replace the term "step" with the term "procedure." No new matter is being introduced by way of the amendment.

In response to Office Action, figures 1-2 are being amended to include the term "Prior Art". No new matter is being introduced by way of the amendment. Replacement Drawings, which include the Amendment to Figures 1-2 are being filled herewith.

Claim Rejections Under 35 U.S.C. 103(a)

Claims 1-6, 10-11, 15, 24, 31-36, 38, 40-41, 45, and 54 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jarvinen et al. (U.S. Patent No. 5,946,651), hereinafter referenced as "Jarvinen" in view of Yajima et al. (U.S. Patent No. 5,873,058), hereinafter referenced as "Yajima."

Claim 1 as amended in the Claim Listing above recites,

> In a communications system for transmitting digital signals using a compression code comprising a predetermined plurality of parameters including a first parameter, said parameters representing an audio signal comprising a plurality of audio characteristics including a first characteristic, said first parameter being related to said first characteristic, said compression code being decodable by a plurality of decoding ~~steps~~ procedures including a first decoding ~~step for decoding~~ procedure to decode said parameters related to said first characteristic, apparatus for adjusting the first characteristic comprising:
>
> a ~~processor~~ decoder responsive to said digital signals and said compression code to at least partially decode said digital signals to read at least said first parameter; ~~and~~
>
> a first generator to generate at least a first parameter value derived from said first parameter, and
>
> responsive to said digital signals and said first parameter value, a second generator to generate an adjusted first parameter value representing an adjustment of said first characteristic;[[,]]
>
> a detection unit to detect over amplification or over suppression of said signals;
>
> responsive to detection of over implication or over suppression, a feedback unit to feedback and further adjust said adjusted first parameter value; ~~and~~
>
> responsive to said adjusted first parameter value, a replacement unit to derive an adjusted first parameter;

a replacement unit to replace said first parameter in said digital signals with said adjusted first parameter; and

a transmitter to transmit said digital signals with said adjusted first parameter.

where the strikethrough words indicate elements being deleted by way of amendment, and the underlined words indicate elements being added by way of amendment. Support for the amendment is found in the specification as originally filed at least on page 27, lines 13-20:

> The realized gain is checked to see if overflow or underflow problems could occur. This could be accomplished, for example, by determining what the new speech level would be by multiplying the realized gain by the original speech level. Alternatively, a speech decoder could be used in the ALC device to see whether overflow/underflow actually occurs. Either way, if the realized gain value is deemed to be too high or too low, the new SLRP is reduced or increased, respectively, until the danger of overflow/underflow is considered to be no longer present.

Referring to Applicants' Figs. 12-14, a coded domain ALC approach that only modifies the SLRP is illustrated. The speech only needs to be decoded partially and to the extent necessary to extract the SLRP. The quantized SLRP is decoded and multiplied by a gain factor (i.e., adjusted) to obtain an adjusted SLRP value. The value of the gain factor may be adjusted using a feedback loop (shown in Fig. 14) to prevent suboptimalities that may arise as a result of possible over-amplification or over-suppression of the speech signal. The resulting adjusted SLRP value is then quantized to form an adjusted SLRP.

In contrast, Jarvinen does not teach the concept of adjusting a gain parameter using a feedback loop. Jarvinen merely uses parameters, such as a gain parameter, to adjust gain and adjust generation of a signal that is fully decoded and converted to audio. Item 4 of the present Office Action refers to Column 8, lines 62-67 and states that Jarvinen discloses further adjustment of a fed back gain scaled signal. Applicants respectfully disagree with this view. Jarvinen, as described in Column 8, lines 62-67, merely computes a scale factor that is used to scale the intermediate excitation signal ew'(n) 315. Specifically, referring to Jarvinen's Fig. 3, the elements entering adder 313, including the intermediate excitation signal ew'(n) 315, demonstrate the structure of a feed-forward loop. Thus, Jarvinen does not disclose "a feedback unit to feedback and further adjust said adjusted first parameter value" as recited in Applicants' amended claim 1.

Yajima describes a voice coding and transmission system with silence elimination. In order to prevent sound abnormalities, Yajima moderates the divergence rate by attenuating the gain value of a voice signal input to the unstable coding/decoding system. Referring to Fig. 2 of Yajima, the attenuated gain value is set based on transitions between different modes of operations, including from a voice state to a silence state, from a silence state to a voice state and from a voice state to another voice state. In order to improve the performance of the system based on transition between voice states, Yajima provides an open-loop system for setting gain. Thus, Yajima does not employ "a feedback unit" as claimed by Applicants in amended claim 1.

Accordingly, because Javinen and Yajima lack a requisite element of claim 1, namely teaching "a feedback unit to further feedback and adjust said adjusted first parameter value," Applicants respectfully submit that neither Jarvinen nor Yajima, either alone or in combination, teaches Applicants' claim 1 as now amended. Thus, Applicants respectfully submit that the rejections under 35 U.S.C. 103(a) is overcome and respectfully request that the rejections be withdrawn.

Independent claim 31 is being amended to include the similar elements ("detecting over amplification or over suppression of said signals; feeding back and further adjusting said adjusted first parameter value in response to detecting over amplification or over suppression of said signals") as amended Claim 1. Accordingly, Applicants respectfully submit that claim 31 overcomes the rejection under 35 U.S.C. 103(a) for the reasons presented above.

Because claims 2-6, 10, 11, 15, 20 and 24 depend from amended claim 1 and claims 32-36, 38, 40, 41, 45, and 54 depend from amended claim 31, Applicants respectfully submit that these claims should be allowed for a least the same reasons as the base claims from which they depend.

In part 10 of the Office Action, claims 8, 9, 12, 16, 18, 20-23, 39, 42, 46, 48, and 50-53 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jarvinen in view of Yajima, and further in view of Yasunaga et al. (U.S. Patent No. 6,330,534) ("Yasunaga"). Because these claims depend from base claims 1 and 31, these claims should be allowable for a least the foregoing reasons. Therefore, Applicants respectfully request withdrawal of the rejections of these claims.

In part 11 of the Office Action, claims 7 and 37 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Jarvinen in view of Yajima, in view of Yasunaga, and further in view of Crouse et al. (U.S. Patent No. 4,899,384) ("Crouse"). Because claims 7 and 37 depend from base claims 1 and 31, these claims should be allowable for at least the same reasons as the base claims from which they depend.

In part 12 of the Office Action, claims 13-14, 17, 19, 43-44, 47, and 49 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jarvinen in view of Yajima in view of Yasunaga, and further in view of Swaminathan et al. (Patent No. 5,751,903). Because these claims depend from amended base claims 1 and 31, these claims should be allowed for at least the same reasons as the base claims from which they depend.

In part 13 of the Office Action, claims 25-30 and 55-60 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yajima in view of Applicants' Admitted Prior Art (AAPA). Because these claims depend from amended base claims 1 and 31, these claims should be allowed for at least the same reasons as the base claims from which they depend.

Rejection Under 35 U.S.C. 112

Claims 1-24 were rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement.

Corrections to claim 1 have been made in the Claim Listing above. Accordingly, Claim 1 is believed to have overcome the rejection under 35 U.S.C. 112, first paragraph. Therefore, Applicants respectfully request withdrawal of the rejection of this claim.

Because claims 2-6, 10, 11, 15, 20 and 24 depend from amended claim 1, Applicants respectfully submit that these claims should be allowed for a least the same reasons as base claim 1.

Information Disclosure Statement

An Information Disclosure Statement (IDS) is being filed concurrently herewith. Entry of the IDS is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims, claims 1-60, are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By Mark B Solomon

Mark B. Solomon
Registration No. 44,348
Telephone: (978) 341-0036
Facsimile: (978) 341-0136

Concord, MA 01742-9133
Date: 2/11/08

Figure 1: Network enhancement of coded speech in the linear domain

PRIOR ART

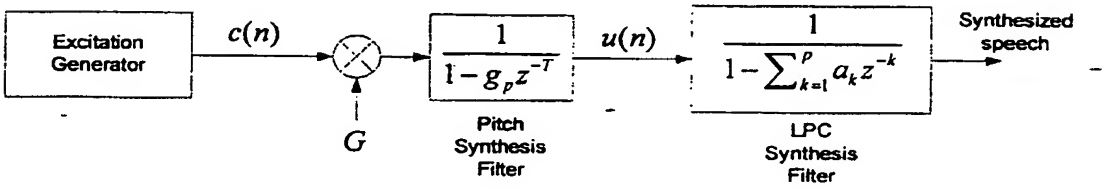
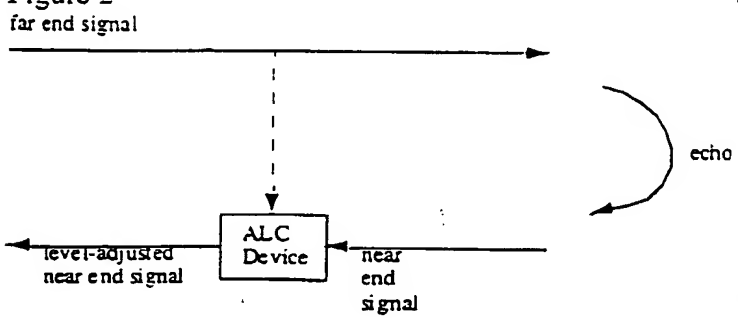


Figure 3

Figure 2



PRIOR ART

Figure 4

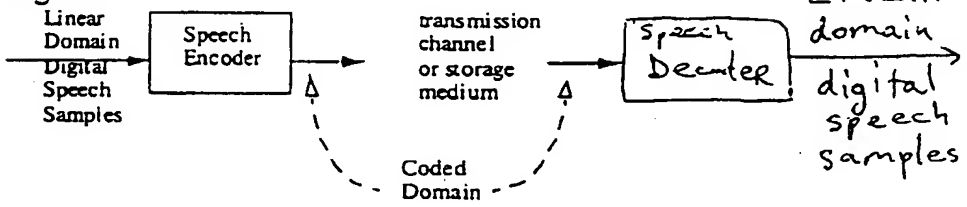


Figure 5